

**REMARKS**

Claims 1-28 are pending in this application.

**I. Rejection Under 35 U.S.C. §102(b)**

The Office Action rejects claims 1, 6-19 and 22-24 under 35 U.S.C. §102(b) as allegedly being anticipated by U.S. Patent No. 6,403,175 ("Speier"). Applicant respectfully traverses this rejection.

**A. Claims 1, 6-19 and 22-24**

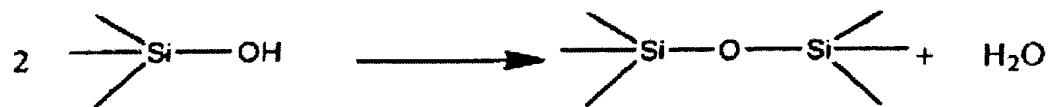
The Patent Office responds to Applicant's prior arguments by alleging that Speier recites water in stoichiometric amounts at a minimum of 0.5 mol of water per mol of alkoxy silane. See Office Action, page 10, citing Speier, column 6, lines 30-34.

Applicant respectfully submits that the described stoichiometric amounts of water and alkoxy silane in Speier are sufficient to completely react all silane groups to produce only siloxane. Therefore, as stated previously, Speier fails to describe a silane-terminated compound, as recited in claims 1 and 15.

As cited by the Patent Office, Speier describes a water-based organopolysiloxane-containing composition. See Speier, column 6, lines 30-31. Silanes are hydrolyzed by water to silanols according to the following reaction:



For this reaction, at least one molecule of water is consumed per silane group. However, the silanol groups so formed condense to siloxanes according to the following reaction:



Therefore, one molecule of water is consumed to form one siloxane group.

In other words, for the condensation reaction, at least 0.5 mol of water is consumed per mol of silane to produce a siloxane group. The hydrolysis of silane to silanol uses 1 mol of water per 1 mol of silane, but because the subsequent condensation of 2 silanol groups to form 1 siloxane produces 1 water molecule, the overall reaction stoichiometry is 0.5 mol of water consumed per mol of silane. The cited passage of Speier simply describes the two above reactions.

The only possible interpretation of Speier, column 6, lines 30-35, is that additional water (at least 0.5 mol per mol of silane) is added to the organopolysiloxane formed by the addition of water, so that the organopolysiloxane-containing compound is water-based. Because alkoxysilane groups are not stable in the presence of water, the Patent Office's argument that alkoxysilane groups are present in the water-based coating of Speier is not chemically possible.

Accordingly, Speier does not describe and cannot form the silane-terminated compound of claims 1 and 15.

Additionally, Speier discloses a curing step accomplished at a temperature range of from 100-350°C. Speier, column 2, lines 63-65. The curing is accomplished by using a blocked isocyanate to crosslink the polyol and the siloxane. Speier, column 2, lines 57-65 and column, lines 53-54. Because the curing step is accomplished at high temperature (necessary due to the use of a blocked isocyanate), it occurs rapidly. High temperature crosslinking cannot be controlled, and will progress quickly until all reactive groups are crosslinked. Thus, the cured product of Speier is not a primer, as recited in claim 1, and will not function as an adhesion promoter.

Conversely, the primer of claims 1 and 15 is a reactive product of a controlled structure, comprising non-reacted isocyanate groups, which achieves advantageous low

molecular species and lower viscosities that cannot be accomplished with a fully cured product as described in Speier. See specification, paragraphs [0052] and [0067].

Unlike the coating of Speier, the primer of claims 1 and 15 comprises isocyanate-reactive groups. In other words, the primer of claims 1 and 15 is not a fully cured product. The silane groups of claims 1 and 15 are capable of further crosslinking, whereas the coating of Speier is fully cured, i.e., completely crosslinked, and is thus incapable of further crosslinking. Thus, the coating of Speier is not the primer of claims 1 and 15.

Moreover, specification paragraph [0013] states that the isocyanate-reactive functional groups react with isocyanate groups at room temperature or at a temperature of up to 100°C. Therefore, the isocyanate groups recited in claims 1 and 15 can not be blocked. Because the isocyanate groups are not blocked, the high temperature required by Speier is not required for formation of the primer of claims 1 and 15. Because the high temperature is not required, the crosslinking step can be controlled, and the primer can contain isocyanate-reactive groups, as required by claims 1 and 15. The compounds of Speier, however, must crosslink at high temperatures, where the crosslinking cannot be controlled. Thus, the Speier compounds will not contain isocyanate-reactive functional groups, as required in claims 1 and 15.

Thus, Speier does not anticipate claims 1, 6-19 and 22-24. Withdrawal of the rejection is respectfully requested.

B. Claims 16, 22 and 23

The Patent Office alleges that the composition of Speier would have a structure as recited in claims 16, 22 and 23. See Office Action, page 4. Applicant respectfully disagrees.

As discussed above, the compositions of Speier react with water to form siloxane groups. Siloxane groups are not present in the structures of claims 16, 22 and 23. Instead, silane groups are present. Speier fails to describe silane-containing compounds, and thus fails to anticipate the compounds of claims 16, 22 and 23.

Additionally, Speier fails to disclose a reaction with free isocyanates, as claimed, instead requiring blocked isocyanates, as discussed above. The blocked isocyanates of Speier create a different compound than those recited in claim 16, 22 and 23. The high temperature, as discussed above, leads to a sudden and complete reaction of the crosslinker and the isocyanate groups. Thus, the compounds of Speier cannot contain isocyanate reactive groups and cannot be the compounds of claims 16, 22 and 23.

C. Claims 17 and 18

The Patent Office alleges that Speier discloses a trialkoxy silane coupling agent. However, the trialkoxy silane of Speier is only a starting material, i.e., present before water is added, and thus the alkoxy silane of Speier is not a separate coupling agent as is recited in claim 17 and 18.

The coupling agent of claims 17 and 18 is an additional, i.e., separate, compound from the silane of formula (I) recited in claim 1. As discussed above, the curing step of Speier is accomplished at high temperatures and is thus uncontrollable. Any silane, whether part of the water-based coating or the alleged additional silane, would be reacted at the high temperature required for curing.

Even if Speier were to have additional silane as alleged by the Patent Office, that alleged silane (1) would be converted to siloxane through reaction with water, as discussed above, and (2) would be incorporated into the product formed at elevated temperature. It would not be present as a coupling agent in a primer, as recited in claims 17 and 18.

Thus, Speier fails to anticipate claims 17 and 18.

D. Claim 24

The Patent Office alleges that the water-based coating composition of Speier is a sealant, and is therefore allegedly the primer of claim 24. See Office Action, page 5. For at least the reasons discussed above, this is not the case.

Additionally, the primer of claim 24 is a primer, not a sealant itself. In other words, the primer of claim 24 is specifically designed to have a material (i.e., adhesives, sealants or floorings) applied on top of the primer layer. The composition of Speier is, instead, the outermost layer of a coating. The compositional and performance requirements of a coating are different from those of a primer. Thus, the coating of Speier can not be a primer for adhesives, sealants or floorings as recited in claim 24.

E. Claim 27

The Office Action does not list claim 27 as rejected over Speier, but mentions claim 27 on page 5. Specifically, the Patent Office alleges that the prior art teaches the use of trimethylolpropane, and that the polyol has free isocyanate-reactive alcohol groups.

However, Speier does not describe a crosslinking agent with free isocyanate-reactive functional groups, as recited in claim 27. Instead, Speier specifically states that "[t]he isocyanate groups of the polyisocyanates used are blocked by reaction with suitable blocking agents." [emphasis added]. Speier, column 8, lines 1-3 and 42-44.

Additionally, the trimethylolpropane of Speier is not a cross-linking agent with free isocyanate-reactive functional groups. Speier describes trimethylolpropane as an optional polyhydric alcohol reacted with diisocyanate to form polyisocyanate. Speier does not describe polyhydric alcohols in the coating composition, only in the preparation of polyisocyanates.

Because the polyisocyanates of Speier are blocked, and the trimethylolpropane is not present in the coating composition, the coating of Speier does not have a cross-linking agent including free isocyanate-reactive functional groups, as required by claim 27.

Therefore, Speier does not anticipate claim 27.

F. Conclusion

For at least the reasons discussed above, Speier fails to anticipate claims 1, 6-19,

22-24 and 27. Withdrawal of the rejection is respectfully requested.

**II. Rejections Under 35 U.S.C. §103(a)**

**A. Claims 2-5, 25 and 26**

The Office Action rejects claims 2-5, 25 and 26 under 35 U.S.C. §103(a) as allegedly being unpatentable over Speier. Applicant respectfully traverses this rejection.

For at least the reasons discussed above, Speier fails to describe a primer as recited in independent claim 1. Speier also fails to provide any reason or rationale for one of ordinary skill in the art to have attempted the primer of claim 1. Because claims 2-5, 25 and 26 depend from claim 1, Speier fails to render obvious claims 2-5, 25 and 26.

With particular regard to claims 2-5, the Patent Office cites *In re Kerkhoven* as stating that "the combination of two compositions, each of which is taught by prior art to be useful for the same purpose, in order to form a third composition that is to be used for the very same purpose may be prima facie obvious" [emphasis added]. This is a misapplication of *Kerkhoven*, because the compositions of Speier are not the primers of claims 2-5, for at least the reasons discussed above.

Regardless of whether Speier describes that both 3-aminopropyltrimethoxysilane and 3-mercaptopropyltrimethoxysilane are acceptable alkoxysilanes for the water-based coating composition described, even the inclusion of both alkoxysilanes in the composition of Speier would not have resulted in the primer of claims 2-5. As discussed above, the coating of Speier is not silane-terminated and does not contain isocyanate-reactive groups, as required in claims 2-5, and therefore the composition alleged by the Patent Office (i.e., the composition of Speier comprising a combination of alkoxysilane compounds) would still not be the primer of claims 2-5.

Further, the mere disclosure in Speier of silanes containing mercapto or amino groups, alone, would not have provided one of ordinary skill in the art with any reason or rationale to have attempted the primer of claims 2-5.

With regard to claims 25 and 26, because Speier fails to render obvious independent claim 1, Speier also fails to render obvious the methods of dependent claims 25 and 26.

Withdrawal of the rejection is respectfully requested.

B. Claims 20 and 21

The Office Action rejects claims 20 and 21 under 35 U.S.C. §103(a) as allegedly being unpatentable over Speier in view of U.S. Patent No. 5,342,867 ("Ryan"). Applicant respectfully traverses this rejection.

For at least the reasons discussed above, Speier fails to render obvious independent claim 1. Therefore, Speier also fails to render obvious dependent claims 20 and 21.

Ryan describes an adhesive composition comprising a polyurethane resin and silane-containing group. Ryan, Abstract. However, Ryan fails to remedy the deficiencies of Speier.

Additionally, Speier describes curing at high temperatures, as discussed above. Solvents are well known to be highly combustive at high temperatures, and would be hazardous were they incorporated in the high-temperature cured product of Speier. Therefore, one of ordinary skill in the art would have had no reason or rationale to have incorporated solvents into the composition of Speier.

One of ordinary skill in the art would also not have had any reason or rationale to have combined the disclosure of Speier with the disclosure of Ryan, because their compositions are non-analogous. Ryan describes a composition including polyurethane, which is immiscible in water, while Speier describes a water-based coating. Ryan, Abstract, and Speier, Abstract. Additionally, because Speier discloses a water-based coating, it would react with the silane groups in the compositions of Ryan, converting them to siloxane, as discussed above. Thus,

one of ordinary skill in the art would not have had any reason or rationale to have combined the disclosures of Speier and Ryan.

Therefore, Speier and Ryan fail to render obvious claims 20 and 21. Withdrawal of the rejection is respectfully requested.

C. Claims 1 and 28

The Office Action rejects claims 1 and 28 under 35 U.S.C. §103(a) as allegedly being unpatentable over WO 00/59974 or U.S. Patent No. 6,762,241 ("Blum"). Applicant respectfully traverses this rejection.

Claim 1 recites a primer composition comprising isocyanate-reactive groups. Blum describes compositions which no longer contain unreacted isocyanate groups. See Blum, column 8, lines 37-39. Blum provides no reason or rationale for one of ordinary skill in the art to have attempted to create the polyurethane solution of Blum with isocyanate-reactive groups.

Blum excludes the possibility of isocyanate-reactive groups by disclosing the use of compounds "d)" and "e)", described as being a "stopper agent[s]". See Blum, column 3, lines 5-7. These stopper agents are employed to block any remaining free isocyanate reactive groups and are described as necessary to obtain soluble and processable products. See column 1, lines 24-27.

Applicant further notes that the stopper agents of Blum all carry only one NCO-reactive group. See column 7, lines 15-29 and column 8, lines 5-14.

Therefore, Blum fails to render obvious claims 1 and 28. Withdrawal of the rejection is respectfully requested.

**III. Finality Of Rejection**

Applicant respectfully submits that the February 27, 2009, Office Action was improperly made Final.

MPEP §706.07(a) states that a "second or any subsequent action on the merits shall be final, except where the Examiner introduces new ground of rejection that is neither necessitated by Applicant's amendment of the claims, nor based on information submitted in an information disclosure statement." [emphasis added].

Applicant respectfully submits that the amendments filed with the November 10, 2008, Amendment did not necessitate the new rejection over Blum. Applicant's November 10 amendments did not alter the scope of the claims. Rather, they simply revised the claim language to make the subject matter of the claims more unambiguous.

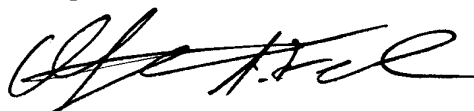
Applicant respectfully requests that the finality of the rejection be withdrawn under MPEP §706.07(d).

#### **IV. Conclusion**

In view of the foregoing, it is respectfully submitted that this application is in condition for allowance. Favorable reconsideration and prompt allowance of claims 1-28 are earnestly solicited.

Should the Examiner believe that anything further would be desirable in order to place this application in even better condition for allowance, the Examiner is invited to contact the undersigned at the telephone number set forth below.

Respectfully submitted,



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Date: May 27, 2009

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